



UNITED STATES PATENT APPLICATION  
For  
**REPLACEABLE FLOOR PROTECTORS**

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# **REPLACEABLE FLOOR PROTECTORS**

## **RELATIONSHIP TO PRIOR APPLICATIONS**

**[0001]** This application is a continuation-in-part of Application Serial No. 10/163,980, filed June 5, 2002, entitled Replaceable "Floor Protectors."

## **BACKGROUND OF THE INVENTION**

### **Field of the Invention**

**[0002]** The invention relates to floor protectors; and, more particularly, to replaceable floor protectors for the legs of chairs and tables to protect floors from damage.

### **General Background and State of the Art**

**[0003]** It is well known to provide a glide at a bottommost portion of a furniture table leg to facilitate the sliding movement of the furniture across a floor. Glides are known to take a variety of forms, but may typically include an upper portion adapted to be attached to the leg of a piece of furniture such as a chair or table; and a lower portion having a smooth, low friction bottom surface for contacting the floor. U.S. Patent No. 5,010,621 issued to Bock on April 30, 1991, and U.S. Patent No. 5,170,972 issued to Guell on December 15, 1992, disclose typical furniture glides as are known in the art.

**[0004]** Some tables and chairs may also have some sort of cap or the like which fits onto the table or chair leg and can be replaced when worn. These glides and caps may mark up wood floors or the like as the chair or table is moved across the wood floor. In some cases, the chair or table legs or the floor may be uneven requiring some compensation for the same to make the chair or table stable.

**[0005]** There is a need for a flooring protector which can be fitted to the leg of a chair or table and can be renewed or replaced when worn which compensates for uneven chair or table legs. Such protector may be a felt pad or the like and quickly and easily replaceable.

## **SUMMARY OF THE INVENTION**

**[0006]** It is an object of this invention to provide a replaceable floor protector for the leg of a chair or table to protect floors which compensates for the unevenness of the chair, table or floor.

**[0007]** It is still another object of this invention to provide such a protector in the form of a removable pad so it can be replaced when worn and one or more shims for varying the angularity of the chair or table leg with respect to the floor.

**[0008]** These and other objects are preferably accomplished by providing a floor protector which fits onto the legs of a chair or table and includes an insert receivable in the bottom of the leg. The insert includes a removable floor protector retaining member. A floor protector of a pad of a soft floor protective material is removably mounted in the retaining member having a portion extending downwardly from the retaining member in contact with the floor or the like on which the chair or table is disposed. The pad can be quickly and easily replaced when worn. One or more removable shims are provided for compensating for the unevenness of the floor or chair or table legs.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

**[0009]** Fig. 1 is an exploded view of the device of the invention as applied to a chair leg;

**[0010]** Fig. 2 is an alternative way of securing the device of the invention to a chair leg;

**[0011]** Fig. 3 is a view taken along line 3-3 of Fig. 1;

**[0012]** Fig. 4 is an assembled view of the parts of Fig. 1;

**[0013]** Fig. 5 is an exploded view of an alternative embodiment of the invention.;

**[0014]** Fig. 6 is an exploded view of a portion of the device of Fig. 1 showing a shim that can be inserted into position to compensate for unevenness of the chair or table leg or the floor on which it sits; and

**[0015]** Fig. 7 is a view similar to Fig. 4 showing the shim of Fig. 6 in operative position.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

**[0016]** Referring now to Fig. 1 of the drawing, a portion 13 of a conventional chair or table leg is shown. This leg 13 may have a hole 14 therein due to a prior floor protector having been inserted therein. Hole 14 may also be threaded having previously received the threaded shaft of a floor protector. Also, leg 13 may not have any hole therein as will be discussed.

**[0017]** A floor protector assembly 10 in accordance with the teachings of the invention is shown in exploded view in Fig. 1. Assembly 10 includes a main body portion 11 having a clip 100 with a pair of spaced prongs 101, 102, each having a head 120, 121

respectively terminating in sharpened points receivable in spaced holes 103, 104 respectively of body portion 11. Nail 12 has a pointed end 30 receivable in hole 107 and a head 110 which can either be driven into the bottom of leg 13 forming hole 14, or inserted into hole 14 if hole 14 already exists. Alternatively, as seen in Fig. 2, wherein like numerals refer to like parts of the embodiment of Fig. 1, instead of nail 12, a screw 31 extending from main body portion 11' (similar to portions 11) may be screwed into threaded hole 32 in leg 13.

**[0018]** Referring again to Fig. 1, main body portion 11 may be cylindrical (see Fig. 3) and threaded on its outer periphery 21. A floor protector 14' is provided having an upper flange portion 16 and an integral downwardly extending floor protector portion 15. Portion 15 may be comprised of a soft but relatively rigid material, such as felt, so as to resist wearing but provide a protection for the floor on which the chair or table rests. As also seen in Fig. 1, flange 16 may be circular in cross-section having a main body section 108 greater in outer diameter than the diameter of portion 15 and an integral lower section 109 similar in outer diameter to that of portion 15 for reasons to be discussed.

**[0019]** A retainer 17 is provided, also circular in cross-section, having an upstanding vertical peripheral wall 20. Wall 20 is threaded on its interior at threaded portion 33 and is integral with a lower horizontal wall 18. Wall 18 extends inwardly from wall 20 and has an opening 19 therethrough.

**[0020]** The assembled parts are shown in Fig. 4. It is to be understood that nail 12 is driven or otherwise inserted into leg 13 with prongs 101, 102 entering the bottom of the leg 13 and preventing the parts from rotating with respect to leg 13. Head 110 is inserted in the like configured slot 111 in flange portion 16 and heads 120, 121 are inserted into spaced slots 122, 123 on each side of slot 111. Floor protector portion 15 is secured to the bottom of flange portion 16 in any suitable manner, as by gluing. It can thus be seen in Fig. 4 that a substantial portion of the floor protector portion 15 protrudes downwardly in opening 19 past wall 18 as seen. Wall 20 is now threaded onto threaded peripheral wall 21 of the main body portion 11.

**[0021]** The protector portion 15 thus protects the floor from damage due to the leg 13 moving thereon. When worn, portions 15 and 16 can be quickly and easily replaced.

Alternatively, portion 15 may be removably attached to portion 16 in any suitable manner, such as by screws, so pad 15 need only be replaced.

**[0022]** The invention can be used on any chair or table leg and may be of any suitable configuration to accommodate the same. As seen in Fig. 4, the assembled parts are secured to the leg 13 with no side movement between the assembled parts and leg 13.

**[0023]** However, glides or the like are well known in the furniture art that swivel to accommodate uneven surfaces or the like. This is shown in Fig. 5 wherein like numerals refer to like parts of Figs 1, 3 and 4. In this embodiment, a cup 40 is shown having an opening 112 adapted to receive leg 41 of a chair or the like. A member 42 is provided swivelly connected to cup 40 via swivel connection 43 as is well known in the art. Thus, connection 43 may include a ball 50 fitting into a socket 51. Member 42 is threaded on its outer periphery 113 so as to threadably receive thereon the threaded portion 33 of retainer 17. Flange portion 114 is otherwise identical to flange portion 16 but slots 111, 122, 123 have been eliminated. The assembled parts are similar to the parts shown in Fig. 4 and further description is deemed unnecessary.

**[0024]** It can be seen that there is disclosed a quick and easy device for protecting floors and the like, such as wood floors, marble floors, etc., from scuffing due to chair and table legs moving over the floor.

**[0025]** The device can be attached to anything resting on a floor, such as chairs, tables, sofas, couches, etc. as broadly defined, chair can mean anything one can sit on resting on a floor and table can mean a platform having legs or supports resting on a floor.

**[0026]** Any suitable materials may be used, such as plastics, metals, etc. The cup 40 may be of resilient material, such as rubber, to fit on legs of various cross-sections. Any suitable dimensions may be used. For example, main body portion 11 may be about 1" in diameter and about 1" or so in length, including nail 12.

**[0027]** Protector 14' may have an upper portion 16 of a rigid material, such as plastic, and an integral lower portion 15 of a cushioning material, such as felt or the like.

**[0028]** There are times where the stability of the chair or table with respect to the floor on which it sits is a problem due to unevenness of the floor or the chair or table legs. As particularly contemplated in the present invention, and as seen in Figs. 6 and 7 wherein

like numerals refer to like parts of Fig. 4, a shim 200 (Fig. 6) is provided having a generally circular outer periphery 201 and a plurality of holes 202, 203 and 204 adapted to receive prong 101, nail 12 and prong 102 therein, respectively (see Fig. 7). As seen in Fig. 6, shim 200 has a varying thickness so that it is wider or thicker on one side from the other. This thickness tapers or varies relatively evenly from the wide side to the thinner side, as seen in Fig. 7.

**[0029]** Thus, as seen in Fig. 7, when shim 200 is placed between chair leg portion 13 and retainer 17 and main body portion 11, the angularity of the assembled parts (and thus the chair leg) is varied from the vertical so that differences in floor contours or leg stability can be compensated for.

**[0030]** It should be understood that one or more such shims may be so used if the leg involved is not stable with respect to the floor with only one shim.

**[0031]** Thus, there is disclosed a floor protector assembly that can compensate for differences in legs of chairs or tables or the floor contour itself.

**[0032]** Although a particular embodiment of the invention has been disclosed, variations thereof may occur to an artisan and the scope of the invention should only be limited by the scope of the appended claims.

**[0033]** While the specification describes particular embodiments of the present invention, those of ordinary skill can devise variations of the present invention without departing from the inventive concept.